

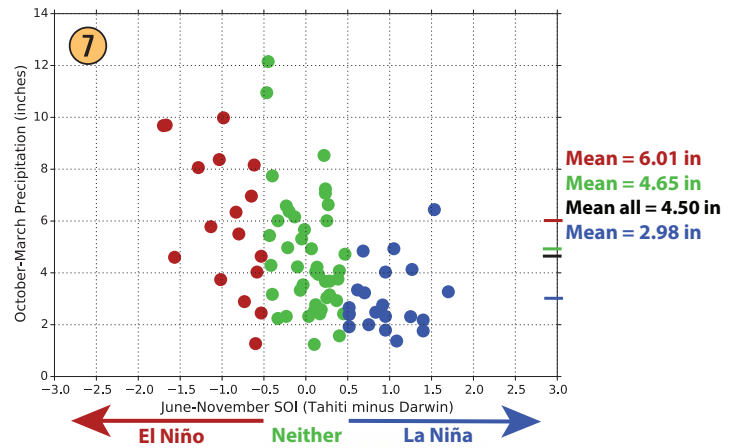
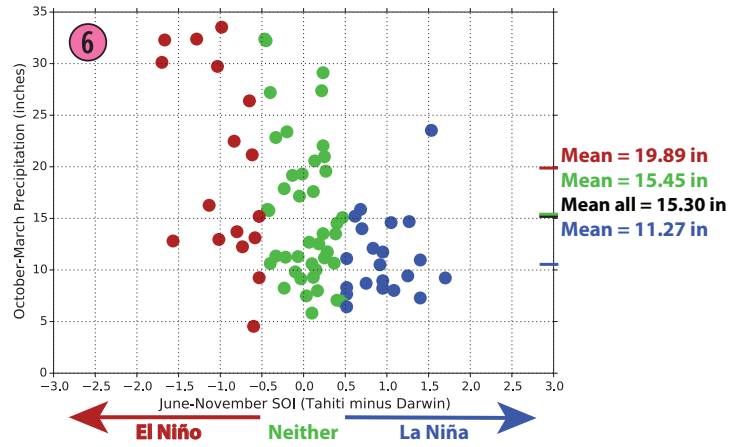
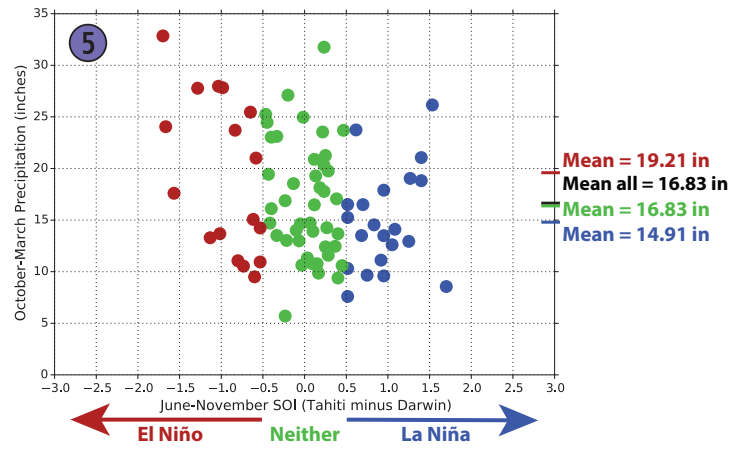
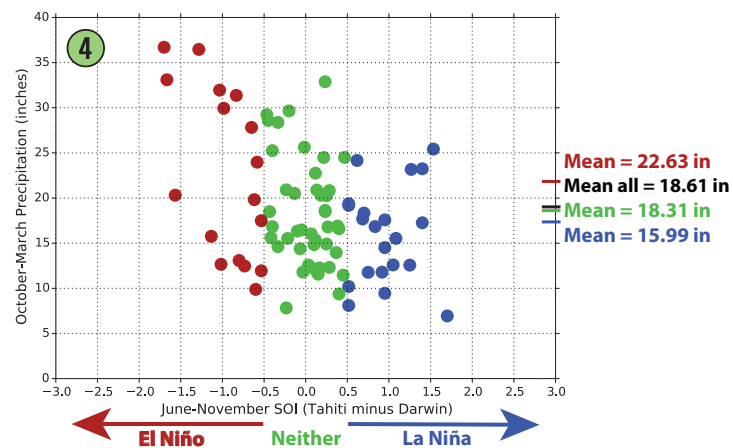
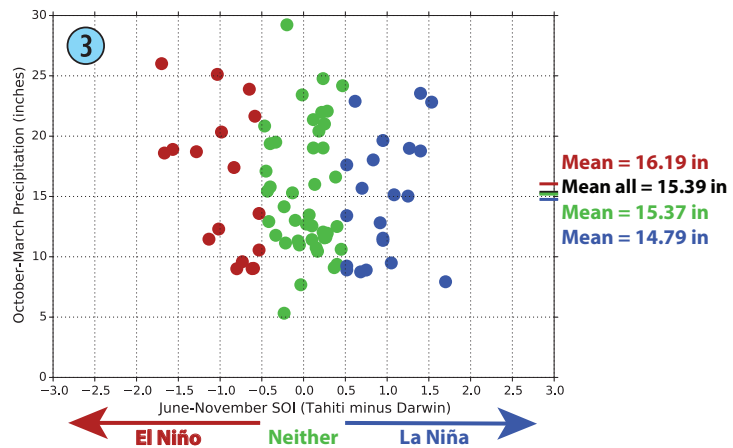
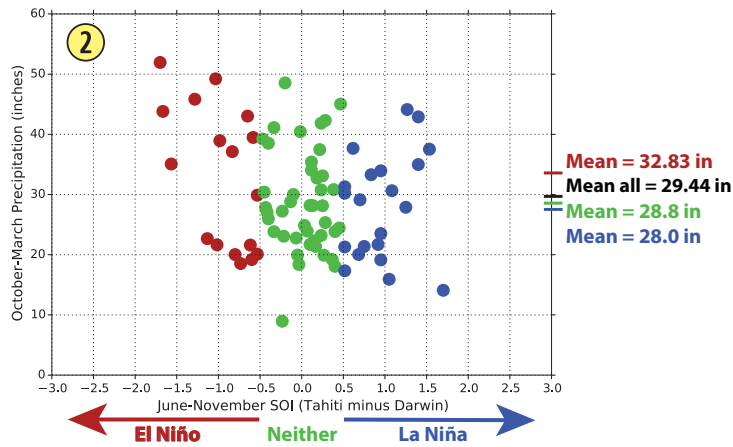
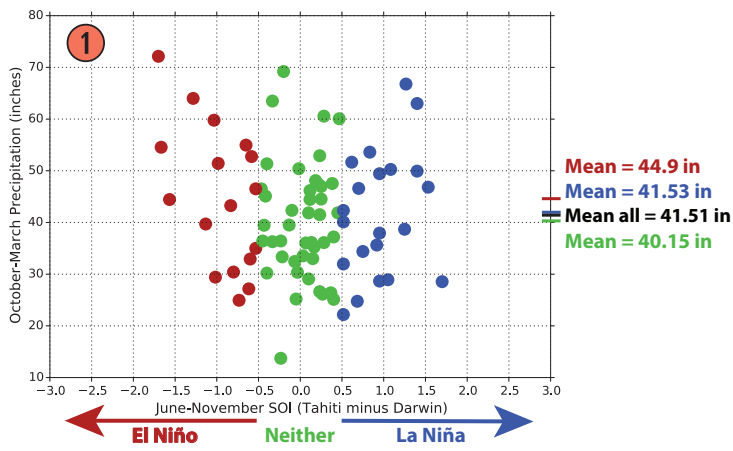


Will El Niño Make a Difference?

September 2014

- ◆ Making seasonal climate forecasts of precipitation – the ability to predict now if 2015 will be wet or dry (and how wet or dry) – is scientifically difficult, and the skill of such predictions is very low, much less than that of a seven-day weather forecast.
- ◆ Scientists consider teleconnections (*recurring and persistent, large-scale patterns of pressure and circulation anomalies over important regions of the globe that correlate with climate at a site of interest*) when attempting to make seasonal climate forecasts.
- ◆ The El Niño-Southern Oscillation (ENSO) is one of the most studied climate phenomena, and one that can provide some predictive guidance in parts of the United States under certain conditions. ENSO is characterized by year-to-year fluctuations in sea surface temperatures along the equator in the Pacific Ocean between Peru and the International Date Line, and concomitant fluctuations in sea level air pressures between Tahiti and Darwin, Australia. The ENSO cycle is expressed as three states: neutral conditions, El Niño (warm ocean phase), and La Niña (cold ocean phase).
- ◆ The National Oceanic and Atmospheric Administration's Climate Prediction Center ENSO diagnostic discussion presently calls for a 65 percent chance of El Niño conditions in the fall and early winter. A strong El Niño event is not favored in any of the model results examined; modeling results are split between a weak event and a moderate event.
- ◆ The graphics on the reverse show the relationship over an 80-year period between measured precipitation in each of California's climate divisions (see indicator map) and ENSO conditions, expressed as the Southern Oscillation Index, a measure of air pressure fluctuations between Tahiti and Darwin. The strongest El Niño and La Niña events plot on the far left and far right sides of the graphics, respectively.
- ◆ As illustrated on the reverse, there is little correlation between precipitation and El Niño conditions in Northern and Central California. The best correlation between precipitation and ENSO status is in Southern California, where La Niña favors dry winters.
- ◆ Considering only the status of ENSO conditions in the historical record, there is little to suggest that weak to moderate El Niño conditions this winter will by themselves end California's drought.

Years 1933/34 through 2013/14 • October - March (winter) precipitation by Climate Division versus Southern Oscillation Index for immediately preceding June - November



Key: climate divisions

